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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/507,465	09/10/2004	Otmar Irscheid	112740-965	5693

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EXAMINER	
PEREZ, ANGELICA	
ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/507,465	IRSCHEID ET AL.	
	Examiner	Art Unit	
	Perez M. Angelica	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *10 September 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *5-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10 September 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *2/14/2005*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (Hamada et al.; US patent No.: 6,552,609 B2) in view of Itoh (Itoh, Junji EP 0,700,169 A2).

Regarding claim 5, Hamada teaches of a digital adaptive predistorter adapted for use in a circuit arrangement for a multimode mobile telephone comprising (column 1, lines 6-11): an at least one switching element arranged so that an optional connection is created (figures 5 and 6; where several switching elements are present; e.g., SW1 and SW2).

Hamada does not specifically teach where the optional connection connecting a transmitter amplifier output to a receiver input whereby the receiver input is disconnected from an antenna changeover switch.

In related art concerning a transmit-receive switch circuit for radio communication apparatus, Itoh teaches where the optional connection connecting a transmitter amplifier output to a receiver input whereby the receiver input is disconnected from an antenna changeover switch (columns 4 and 5, lines 46-58 and 1-10, respectively).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Hamada predistortion circuit with Itoh's specific circuit connection in order to improve the "isolation characteristic between the transmitter unit and a receiver unit", as taught by Itoh.

3. Claims 6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamada (Hamada et al.; US patent No.: 6,552,609 B2) in view of Itoh (Itoh, Junji EP 0,700,169 A2) and further in view of Romano (Romano, Fernando; Derwent No.: 2002-342756).

Regarding claim 6, Hamada teaches of a circuit arrangement for a multimode mobile telephone comprising: a baseband having a first analog to digital converter (figure 16, item 106i), a second analog to digital converter (figure 16, item 109q) and a digital to analog converter (figure 16, item 103i); a transceiver unit having a first receiver (fig 16, where received signals come from a receiver), a second receiver (fig 16), an amplifier (figure 16, item 104), an output of the first receiver being connected to the first analog to digital converter (figure 16, item 106i connected to Sq), an output of the second receiver being connected to the second analog to digital converter (figure 16, item 106q connected to Si), an input of the amplifier being connected to the digital to analog converter (figure 16, items 103 1-q).

Hamada does not specifically show an antenna changeover switch, and a receiving antenna, an input of the first receiver being connected to the antenna changeover switch, an input of the second receiver being connected to the antenna changeover switch, an output of the amplifier being connected to the antenna

changeover switch, the antenna changeover switch being connected to the receiving antenna; a digital adaptive predistorter having a switching element, the switching element arranged so that an optional connection is created.

Itoh teaches an antenna changeover switch (figure 1b), and a receiving antenna (figure 1b), an output of the amplifier being connected to the antenna changeover switch (figure 1b, where there is an indirect connection between the antenna and the changeover switch), the antenna changeover switch being connected to the receiving antenna (figure 1b), a digital adaptive predistorter having a switching element, the switching element arranged so that an optional connection is created (figure 1b, where optional connection is feasible between the various elements).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Hamada predistortion circuit with Itoh's switchover element in order to improve the "isolation characteristic between the transmitter unit and a receiver unit", as taught by Itoh.

Hamada in view of Itoh does not specifically teach where the optional connection connecting the amplifier output to the second receiver input whereby the second receiver input is disconnected from the antenna changeover switch.

In related art concerning a GSM/UMTS dual band mobile telephone receiver, Romano teaches where the first receiver is designed to receive signals from the UMTS network (see title and abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Hamada and Itoh circuit with Romano's changeover switching element in order to attain multiband receiver diversity, as taught by Romano.

Regarding claim 7, Hamada in view of Itoh and further in view of Romano teaches all the limitations of claim 6. Itoh further teaches where the switching element is arranged in the antenna changeover switch (see figure 5b, where the switching element is part of the antenna circuitry).

Regarding claim 8, Hamada in view of Itoh and further in view of Romano teaches all the limitations of claim 6. Romano further teaches where the first receiver is designed to receive signals from the UMTS network (see title and abstract).

Regarding claim 9, Hamada in view of Itoh and further in view of Romano teaches all the limitations of claim 6. Romano further teaches where the first receiver is designed to receive signals from the GSM network (see title and abstract).

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pub. No.: 2002/017972 A1; deals with direct conversion in radio transceivers.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angelica Perez whose telephone number is 571-272-7885. The examiner can normally be reached on 7:00 a.m. - 3:30 p.m., Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on (571) 272-7882. The fax phone numbers for the organization where this application or proceeding is assigned are 571-273-8300 for regular communications and for After Final communications.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either the PAIR or Public PAIR. Status information for unpublished applications is available through the Private PAIR only. For more information about the pair system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). Information regarding Patent Application Information Retrieval (PAIR) system can be found at 866-217-9197 (toll-free).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2600's customer service number is 703-306-0377.

Angelica Perez
Examiner

NAY MAUNG
SUPERVISORY PATENT EXAMINER

Art Unit 2618

June 8, 2006